REMARKS/ARGUMENTS

Amendments to the Claims

Editorial error in claim 5 is corrected so that claim 5 is dependent on claim 4, instead of claim 1; editorial error in claim 28 is corrected so that claim 28 is dependent on claim 26, instead of claim 25. Additionally, claims 11, 20, 22 and 27 are canceled, and claim 12 is amended to more clearly define the claimed determining unit. No new matter is introduced.

Claim Objections

Claims 11, 20, 22 and 27 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 1, 16, 18 and 23 respectively.

Response:

Claims 11, 20, 22 and 27 are canceled to prevent substantial duplicate of claims. The claim objections on claims 11, 20, 22 and 27 are therefore overcome.

Claim Rejections – 35 USC 112

Claims 28 and 30 are rejected under 35 U.S.C 112, 2nd paragraph for lack of sufficient antecedent basis for the limitation in the claim.

Response:

Editorial error in claim 28 is corrected. Claim 28 has been amended to be dependent on claim 26. The applicant believes that the rejections under 35 U.S.C 112, 2nd paragraph are overcome.

Claim Rejections – 35 USC 102

Claims 1, 3-6 and 11 are rejected under 35 U.S.C 102(b) as being anticipated by the admitted Prior Art disclosed by the applicant.

Response:

Claim 1

The claimed packet detection method disclosed in claim 1 determines if the packet is detected according to the correlation and the peak power of the input signal. The applicant specifically points out that the claimed packet detection in claim 1 is based on **both** the correlation and the peak power of the input signal, not simply based on either the correlation of the input signal or the peak power of the input signal as prior art is. Although both measuring peak power and calculating the correlation of a packet preamble are methods of packet detection, the peak power method and the correlation method are implemented separately in prior art. Paragraphs [0004]-[0009] of applicant's disclosure **do not** mention or suggest combining the correlation and the peak power measurement for packet detection. The applicant therefore asserts that claim 1 has overcome the rejections under 35 USC 102 (b), and has been placed in condition for allowance.

Claims 3-4 and 6

Claims 3-4 and 6 are dependent upon claim 1, and should be allowed if claim 1 is found allowable.

Claim 5

Claim 5 is amended to correct editorial error, and dependent upon claim 4 now. According to the amended claim 5, the correlation is performed on the **processed** preamble, which is generated by performing a **convolution** for a conjugate of a PN code and the PN codes. In applicant's paragraph [0008], lines 1-2, however, the prior art performs the correlation on a preamble that is not a convolution result. Therefore, the applicant asserts that the claimed limitations recited in the amended claim 5 are neither taught nor suggested in paragraph [0008], lines 1-2 of applicant's disclosure. Additionally, claim 5 is dependent upon claim 1, and should be allowed if claim 1 is found allowable.

Claim Rejections – 35 USC 103

Claim 2 is rejected under 35 U.S.C 103(a) as being unpatentable over the Prior Art

disclosed by the applicant in view of Nuutinen et al. (US2004/0013174).

Response:

Claim 2 is dependent upon claim 1, and should be allowed if claim 1 is found allowable.

Claim 7 and 9 are rejected under 35 U.S.C 103(a) as being unpatentable over the Prior Art disclosed by the applicant in view of Suzuki et al. (US2001/0003531).

Response:

Suzuki utilizes the average operator to obtain an average value of the plurality of symbols for the multiplied result, but fails to teach or suggest that the multiplied result is **power** of a preamble or **power** of noise as limitations in claim 7 and 9. The applicant therefore asserts that the claimed limitations recited in claims 7 and 9 are not obvious to one of ordinary skill in the art to combine the Prior Art disclosed by the applicant with the teachings of Suzuki. Additionally, claims 7 and 9 are dependent upon claim 1, and should be allowed if claim 1 is found allowable.

Claims 8 and 10 are rejected under 35 U.S.C 103(a) as being unpatentable over the Prior Art disclosed by the applicant in view of Suzuki (US2001/0003531), and in further view of Okanoue (USPN 6,738,439).

Response:

The applicant respectfully points out that Okanoue teaches determining a packet is arrival when the peak value of the correlation is equal to or higher than a predetermined threshold (col. 1, lines 33-38 of Okanoue's disclosure) or when the average power of the **input signal** is larger than a threshold (col. 5, lines 38-45 of Okanoue's disclosure). Okanoue's teaching merely teaches obtaining an average power of the **input signal**, but is silent on obtaining an average power of a **preamble in a packet** of an input signal and an average power of **noise of the preamble**. In addition, referring to above argument of claims 7 and 9, the applicant also points out that Suzuki fails to teach or suggest the claimed average

power of the preamble and the claimed average power of noise of the preamble. The applicant's claims 8 and 10, however, claim the use of a ratio of the correlation to the **average power of the preamble** and another ratio of the peak power to the **average power of the noise**. As neither Suzuki nor Okanoue teaches the claimed average power of the preamble and the claimed average power of noise of the preamble, the applicant therefore asserts that the claimed limitations recited in claims 8 and 10 are not taught or suggested by the combined teaching of the Prior Art disclosed by the applicant, Suzuki and Okanoue. Additionally, claims 8 and 10 are dependent upon claim 1, and should be allowed if claim 1 is found allowable.

Claims 12, 13, 16, 17, 23 and 29 are rejected under 35 U.S.C 103(a) as being unpatentable over Nishio (USPN 7,167,505) in view of Zhu (US 2004/0005022).

Response:

The applicant believes that the combined teaching of Nishio and Zhu fails to disclose all of the limitations recited in the claimed packet detection device of claim 12. The reason is that Zhu's signal detection **only** utilizes the conventional correlation method (in paragraph [0023], Zhu teaches that signal detection is indicated when the correlation of two received preamble symbol samples is greater than or equal to a threshold). Note is made by the applicant that Zhu's signal energy measurement is for AGC control rather than signal detection (paragraphs [0107]-[113]). In short, when Zhu's signal detection is applied to Nishio's radio receiving apparatus, the modified receiving apparatus uses Zhu's correlation method for signal detection only. That is, no peak power is used by the modified receiving apparatus for signal detection. The applicant's claim 12, however, claims that the determining unit determines if the packet is detected according to **the peak power** and **the correlation**. The applicant therefore asserts that claim 12 has overcome the rejections under 35 USC 103 (a), and has been placed in condition for allowance.

Moreover, after studying Zhu's paragraphs [0107]-[0113], the applicant points out that the maximized signal to noise ratio mentioned in Zhu's page 6, paragraph [0107] is a

possible effect when performing Zhu's two-stage AGC, not a step or process in his teaching. In other words, Zhu does not teach performing a signal to noise ratio calculation in his receiver. The signal to noise ratio mentioned in Zhu's page 6, paragraph [0107] by no means implies that Zhu's device has a division module or comparison unit as applicant's claim 17 or claim 23 does.

Additionally, claims 13, 16, 17, 23 and 29 are dependent upon claim 12, and should be allowed if claim 12 is found allowable.

Claims 14, 19 and 21 are rejected under 35 U.S.C 103(a) as being unpatentable over Nishio (USPN 7,167,505) in view of Zhu (US 2004/0005022) as applied to claim 13 above, and further in view of Bohnke (USPN 7,145,955).

Response:

Referring to the response above, the applicant believes that the signal to noise ratio mentioned in Zhu's page 6, paragraph [0107] cannot represent that Zhu's device has a calculating unit or division unit as applicant's claim 19 or claim 21 does. Therefore, the limitation recited in claims 19 and 21 are neither taught nor suggested by the combined teaching of the cited references. Additionally, claims 14, 19 and 21 are dependent upon claim 12, and should be allowed if claim 12 is found allowable.

Claims 15, 25, 28 and 30 are rejected under 35 U.S.C 103(a) as being unpatentable over Nishio (USPN 7,167,505) in view of Zhu (US 2004/0005022) as applied to claim 13 above, and further in view of Husted (US 2002/0183027).

Response:

In the Office action dated 06/04/2007, Examiner states that the inverse of the input can be used to anticipate the claimed predetermined value. The applicant disagrees. As known to one of ordinary skill in the art, any signal in Husted's receiver apparatus that is originated from the received RF signal is time-varying and unpredictable as the received RF signal is not fixed. Therefore, the applicant asserts that any input signal in Husted's receiver

apparatus fails to read on the claimed **predetermined** value of applicant's claim 15. Additionally, claims 15, 25, 28 and 30 are dependent upon claim 12, and should be allowed if claim 12 is found allowable.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

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Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)